

What is claimed is:

1. A method for removing contaminates from ink jet printer components, comprising the steps of:

5 providing a Nd-YAG laser, the Nd-YAG laser capable of generating an output;

frequency multiplying the Nd-YAG laser output to generate various beams;

10 applying various beams of the frequency multiplied Nd-YAG laser output to the ink jet printer components to remove contaminates on the ink jet printer components.

15 2. A method as claimed in claim 1 wherein the step of frequency multiplying the Nd-YAG laser output comprises the step of approximately doubling the laser output to produce a green laser light.

20 3. A method as claimed in claim 1 wherein the step of frequency multiplying the Nd-YAG laser output comprises the step of approximately tripling the laser output to produce an ultraviolet laser light.

4. A method as claimed in claim 1 wherein the step of applying the frequency multiplied Nd-YAG laser output further comprises the step of applying a pulsed laser output.

25 5. A method as claimed in claim 1 wherein the step of applying the frequency multiplied Nd-YAG laser output further comprises the step of applying greater than 300 microjoules pulses to the ink jet components.

6. A method as claimed in claim 1 wherein the step of applying the frequency multiplied Nd-YAG laser output further comprises the step of applying less than 3000 microjoules pulses to the ink jet components.

5 7. A method as claimed in claim 1 wherein the ink jet printer components comprises an orifice plate.

8. A method as claimed in claim 1 wherein the ink jet printer components comprises a charge plate.

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9. An apparatus for removing contaminates from ink jet printer components, comprising:

a Nd-YAG laser, the Nd-YAG laser capable of generating an output;

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means for frequency multiplying the Nd-YAG laser output;

means for applying the frequency multiplied Nd-YAG laser output to the ink jet printer components to remove contaminates on the ink jet printer components.

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10. An apparatus as claimed in claim 9 wherein the means for frequency multiplying the Nd-YAG laser output comprises means for approximately doubling the laser output to produce a green laser light.

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11. An apparatus as claimed in claim 9 wherein the means for frequency multiplying the Nd-YAG laser output comprises means for approximately tripling the laser output to produce an ultraviolet laser light.

12. An apparatus as claimed in claim 9 further comprising a microscope coupled thereto for viewing the ink jet printer components being cleaned.

13. An apparatus as claimed in claim 9 further comprising a means coupled to the apparatus for inspecting the ink jet printer components to be cleaned.

14. An apparatus as claimed in claim 13 wherein laser cleaning is selectively  
5 applied to the ink jet components as determined by the inspection means.

15. An apparatus as claimed in claim 9 wherein the means for applying comprises optical fiber means for directing the Nd-YAG laser output.